

**Abstract**

An endpoint is configured for communication with a distribution substation. The endpoint includes a receiver conditioning block and a receiver processing block. The receiver conditioning block is positioned downstream from the distribution substation, and  
5 arranged to provide an analog signal that is responsive to the power signal from the distribution line. The receiver processing block is configured to extract encoded data from the power signal by under-sampling the analog signal, and processing the under-sampled analog signal such that fundamental and harmonic frequencies associated with the power signal are suppressed. Command signals from the distribution substation are extracted from  
10 the power-line. Each endpoint is addressable by an ID code, and is configurable via downstream command signals that are associated with the ID code. The endpoint collects data at demand based and schedule based intervals.

**CUSTOMER NO. 23552**